LISTING OF CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the present application:

1. (Original) A microencapsulation system, comprising:

a microcapsule production unit;

a fluidized passage for washing and harvesting microcapsules dispensed from the microcapsule production unit;

a flow sensor for sizing and counting the microcapsules; and

a controller configured to simultaneously operate the microcapsule production unit, fluidized passage and flow sensor to process the microcapsules in a continuous manner.

2. (Original) The microencapsulation system of claim 1, wherein the controller is further configured to provide feedback control for the microcapsule production unit, fluidized passage and flow sensor.

3. (Original) The microencapsulation system of claim 1, wherein the microcapsule production unit comprises:

a dual-dispenser system configured to form co-axial multi-lamellar microspheres; and

a bath of solution configured to receive and form a membrane about the co-axial multi-lamellar microspheres to form microcapsules.

4. (Currently amended) The microencapsulation system of claim ~~3~~ 1, wherein the microcapsule production unit comprises a dual-dispenser system ~~is~~ configured to form substantially uniform co-axial multi-lamellar microspheres ~~having substantially different viscosities~~.

5. (Original) The microencapsulation system of claim 3, further comprising a separation baffle system arranged down stream from the microcapsule production unit, wherein the separation baffle system is configured to separate residual amounts of one or more fluids used to form the co-axial multi-lamellar microspheres from the solution used to form the membrane about the co-axial multi-lamellar microspheres.

6. (Original) The microencapsulation system of claim 5, further comprising a recirculation conduit configured to recycle the one or more fluids back to the dual-dispenser system.

7. (Previously amended) The microencapsulation system of claim 5, further comprising a recirculation conduit configured to recycle the solution back to the bath.

8. (Original) The microencapsulation system of claim 1, wherein the flow sensor comprises:

an imaging system configured to acquire images of the microcapsules; and

a photometer configured to measure intensity of light transmitted through the microcapsules.

9. (Withdrawn) A microencapsulation apparatus, comprising:

a first microsphere dispenser; and

a second microsphere dispenser arranged in alignment with the first microsphere dispenser, wherein the apparatus is configured to form co-axial multi-lamellar microcapsules from materials discharged from the first and second microsphere dispensers.

10. (Withdrawn) The microencapsulation apparatus of claim 9, wherein flow rates of the materials discharged through the first and second microsphere dispensers are respectively configured to form the co-axial multi-lamellar microcapsules.

11. (Withdrawn) The microencapsulation apparatus of claim 9, further comprising first and second pulsatile flow generators coupled respectively to the first and second microsphere dispensers to synchronize the frequencies at which the materials are discharged from the first and second microsphere dispensers to form the co-axial multi-lamellar microcapsules.

12. (Withdrawn) The microencapsulation apparatus of claim 9, wherein the first and second microsphere dispensers are spaced apart by a distance configured to form the co-axial multi-lamellar microcapsules.

13. (Withdrawn) The microencapsulation apparatus of claim 9, wherein at least one of the first and second microsphere dispensers comprises a plurality of nozzles configured to dispense substantially uniform droplets of materials having substantially different viscosities.

14. (Withdrawn) The microencapsulation apparatus of claim 9, wherein at least one of the first and second microsphere dispensers comprises an ultrasonic nozzle.

15. (Withdrawn) The microencapsulation apparatus of claim 9, wherein at least one of the first and second microsphere dispensers is configured to move.

16. (Withdrawn) The microencapsulation apparatus of claim 9, further comprising a module configured to direct spherical droplets formed from the materials discharged from the first and second microsphere dispensers to a chamber within the microencapsulation system, wherein the chamber is adapted to suspend the spherical droplets within a fluid and form a membrane around the spherical droplets to form the co-axial multi-lamellar microcapsules.

17. (Withdrawn) The microencapsulation apparatus of claim 16, wherein at least one of the first and second microsphere dispensers is arranged within in the vicinity of an opening of the module leading into the chamber.

18. (Withdrawn) The microencapsulation apparatus of claim 16, wherein the second microsphere dispenser is arranged upstream from the first microsphere dispenser.

19. (Withdrawn) A method of fabricating and processing microcapsules, comprising:

forming distinct droplets comprising one or more materials; and

introducing the droplets directly into a solution bath to form a membrane around the droplets such that a plurality of microcapsules are formed.

20. (Withdrawn) The method of claim 19, wherein the steps of forming the distinct droplets and introducing the droplets directly into a solution bath produce a continuous flow of the microcapsules within the solution bath.

21. (Withdrawn) The method of claim 20, further comprising:

passing the continuous flow of microcapsules from the solution bath directly into a washing solution;

analyzing the microcapsules as the microcapsules flow through the washing solution.

22. (Withdrawn) The method of claim 19, wherein the step of forming comprises:

dispensing substantially uniform droplets of a first fluid; and
coating the substantially uniform droplets with an immiscible solution.

23. (Withdrawn) The method of claim 22, wherein the at least one of the steps of dispensing the substantially uniform droplets and coating the substantially uniform droplets comprises discharging multiple fluids having substantially different viscosities.

24. (Original) A microencapsulation system, comprising:

a microcapsule production unit comprising:

a dual-dispenser system configured to form co-axial multi-lamellar microspheres; and

a bath of solution configured to receive and form a membrane about the co-axial multi-lamellar microspheres to form microcapsules;

a separation baffle system arranged down stream from the microcapsule production unit, wherein the separation baffle system is configured to separate residual amounts of one or more fluids used to form the co-axial multi-lamellar microspheres from the solution used to form the membrane about the co-axial multi-lamellar microspheres;

a fluidized passage for washing and harvesting microcapsules dispensed from the microcapsule production unit;

a flow sensor for sizing and counting the microcapsules comprising:

an imaging system configured to acquire images of the microcapsules; and

a photometer configured to measure intensity of light transmitted through the microcapsules; and

a controller configured to simultaneously operate the microcapsule production unit, fluidized passage and flow sensor to process the microcapsules in a continuous manner.

25. (Original) The microencapsulation system of claim 24, wherein the controller is further configured to provide feedback control for the microcapsule production unit, fluidized passage and flow sensor.

26. (Cancelled).